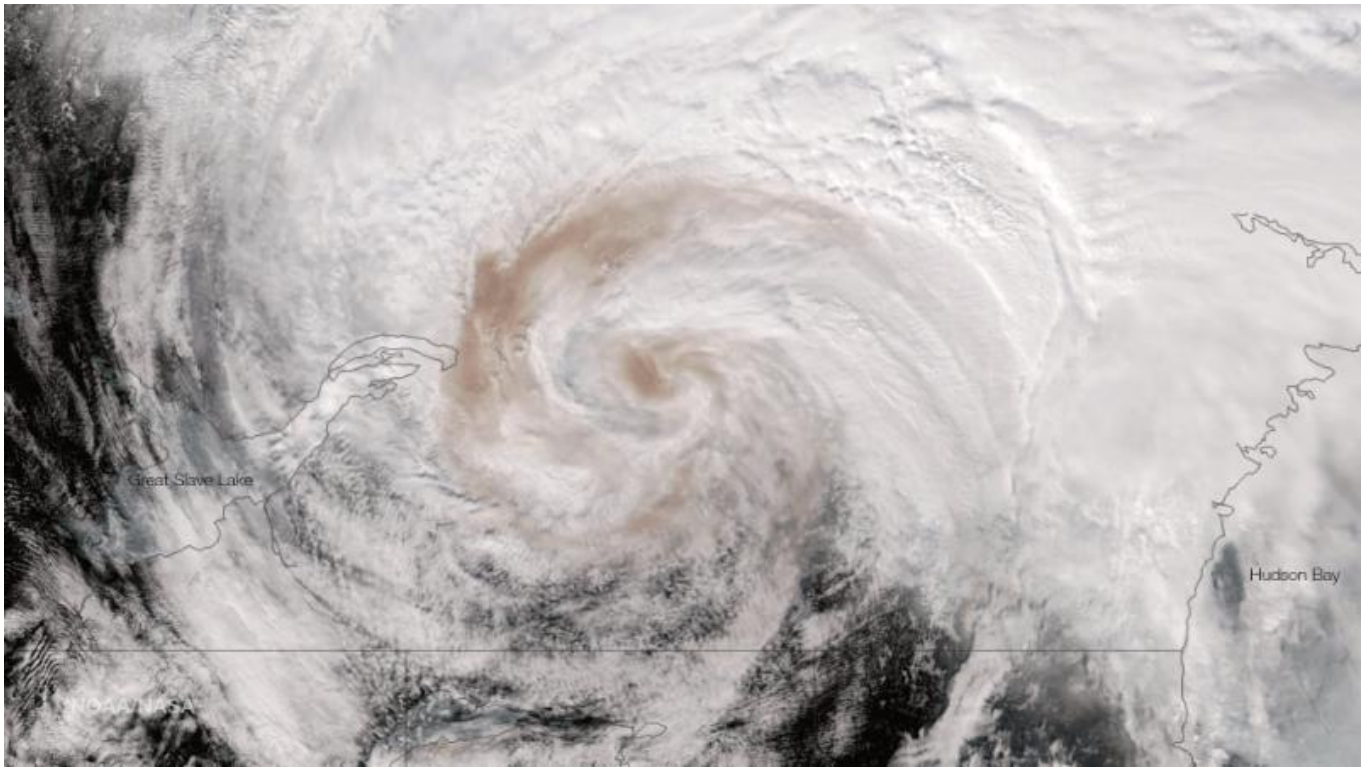
NESDIS NEWS

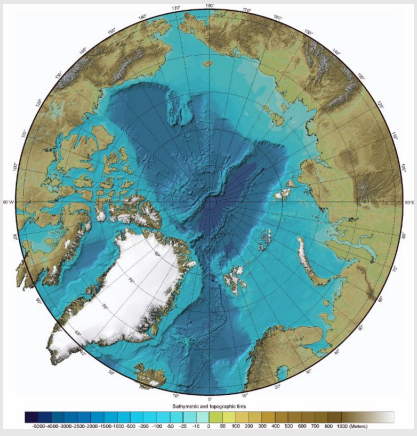
National Environmental Satellite, Data, and Information Service

May 2016



Smoke from the Fort McMurray, Red Lake, and surrounding fires has been swept up in the cyclonic spin of a low pressure system over northern Canada. This true color image from the Suomi NPP satellite on May 9, 2016, at around 20:15 UTC shows the clouds, stained brown from the smoke. According to reports from Canadian media, as of May 15, 2016, the Fort McMurray wildfires, still "out of control" and growing, showed "extreme activity" in the southern parts of the fire area. The fires have burned more than 250,000 hectares (more than 600,000 acres) and are moving in a northeasterly direction, toward the Alberta's border with Saskatchewan.

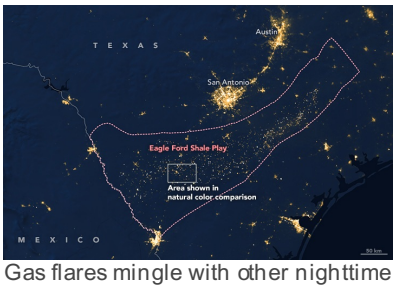
DID YOU KNOW?



Source: International Bathymetric Chart of the Arctic Ocean (IBCAO).

NOAA Satellites Used to Detect Gas Flares Globally

Gas flaring - a widely used practice for the disposal of natural gas in petroleum producing areas - is widely recognized as a waste of energy and an added source of carbon emissions.



Gas flares mingle with other nighttime lights across the Eagle Ford Shale Play in Texas. (Credit: NASA Earth Observatory, using data provided

Despite the ubiquity of the practice, there is a great deal of uncertainty about just how much gas flaring is

NOAA's National Centers for Environmental Information (NCEI) and the Office of Coast Survey have been working with Rose Point Navigation Systems - a leading provider of software and hardware for recreational boaters and commercial marine operators - on developing an automated collection and submission method for crowdsourced bathymetry (CSB) data.

The resulting pilot project has gone live for a limited number of beta testers. Opting-in to the CSB project allows Rose Point users to leverage the bathymetric (position and depth) data collected on their vessels using existing instrumentation by supplying their data to the International Hydrographic Organization Data Center for Digital Bathymetry, an international bathymetric database hosted by NCEI on behalf of the IHO member countries.

The utility of the CSB data range from providing data in previously unmapped waters, assessing the accuracy of nautical charts, and furthering ocean exploration.

SARSAT Saves

The Search and Rescue Satellite Aided Tracking system detects and locates mariners, aviators, and recreational enthusiasts in distress. The satellites relay distress signals from emergency beacons to a network of ground stations and ultimately to the U.S. Mission Control Center in Suitland, Maryland. The Center processes the distress signal and alerts the appropriate search and rescue authorities to who is in distress and where they are located.

Recent SARSAT rescues:

- On May 13, 2016, the signal from a personal locator beacon (PLB) was detected approximately 34 nautical miles northeast of Baker City, Oregon. The PLB was activated by a hiker suffering from an unknown medical emergency. The signal was received by NOAA's Satellite Operations Facility in Suitland, Maryland, and was sent to the Air Force Rescue Coordination Center, who contacted the local sheriff's department. The sheriff's department located the injured hiker unconscious and called Life Flight for medevac.
- On May 14, 2016, the signal

by NOAA.)

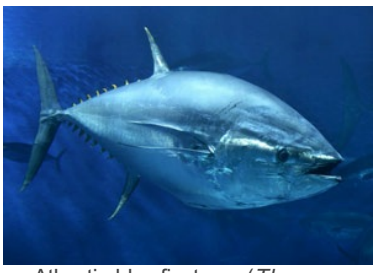
occurring. In the past, estimates of gas flaring volumes have relied on voluntary reporting by corporations and individual countries. As a result, there is very little independent data on gas flaring volumes, and it is widely suspected that some of the reported volumes are low.

The VIIRS instrument on-board the NOAA/NASA Suomi NPP satellite has an increased sensitivity when it comes to detecting nighttime lights. This sensitivity has allowed scientists to develop a new methodology for the global survey of natural gas flaring. Data from VIIRS can also be used to estimate the volume of gas flared around the world, and scientists with NOAA's National Centers for Environmental Information have devised a method to generate a list of the top 100 gas flares worldwide.

There is a global initiative to end routine gas flaring at oil production sites around the world, and data from NOAA satellites such as the Suomi NPP will be key to this effort. Please visit here for more information.

Atlantic Bluefin Tuna Habitats added to the Gulf of Mexico Data Atlas

NOAA's National Centers for Environmental Information (NCEI) has published a new topic in the Gulf of Mexico Data Atlas under the Living Marine Resources theme: Atlantic Bluefin Tuna - Suitable Habitat.



Atlantic bluefin tuna (*Thunnus thynnus)* Credit: NOAA

Potential spawning and feeding habitat were identified by the European Commission Joint Research Centre's Fish Habitat Project, who worked with NCEI to develop this topic and the map products. Their habitat model correlates the presence of tuna, from catch and survey data, with daily environmental data from satellite observations and ocean circulation models. Specific known favorable environmental conditions for large Atlantic bluefin tuna are incorporated, including food availability, physical tolerance to temperature, and preference to currents, that affect spawning and feeding behaviors.

The seasonal and large-scale mapping of suitable habitats provides important temporal and geographical information about the feeding and spawning behavior of Atlantic bluefin tuna for management. This enables resource managers to make informed decisions that can lead to more efficient fishing closure periods, better by-catch reduction, increased recruitment levels and stock recovery.

GOES-14 Super Rapid Scan Operations Supports the Hazardous Weather Testbed

In support of the GOES-R Proving Ground demonstrations

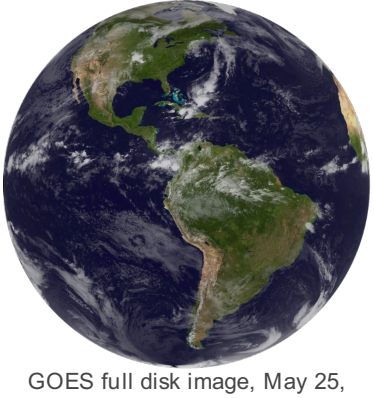
from a PLB was detected approximately six nautical miles south of Cape Lookout, North Carolina, in open water. The crew of the F/V IL INTRUSO II activated the PLB when they became disabled. The signal was received by NOAA's Satellite Operations Facility in Suitland, Maryland, and was sent to Coast Guard District 5, who launched a C-130 from Air Station Elizabeth City to the scene. The aircrew located the vessel, which was disabled with no communications. A motor lifeboat from Station Fort Macon responded to the scene and assisted the vessel and four persons aboard to port.

Select Publications

1) Scientists from NOAA's National Centers for Environmental Information recently published a manuscript in *Current Climate Change Reports,* titled *Trends and extremes in Northern Hemisphere snow characteristics*. Evidence indicates a downward trend over the Northern Hemisphere in several metrics of snow between the period of winter 1960/1961 and winter 2014/2015. Seasonal maximum snow depth generally decreasing over North America and for European stations analyzed. Changes in snow characteristics over the Northern Hemisphere are generally consistent with expectations for a warming world.

2) Scientists from NOAA's National Centers for Environmental Information and the Cooperative Institute for Research in Environmental Sciences, among others, recently published a manuscript in the *Journal of Climate*, titled *A five-century reconstruction of Hawaiian Islands winter rainfall*. Few, if any, high-resolution paleoclimate records are available for the Hawaiian Islands prior to about 1850. Hawaii average winter precipitation was reconstructed and evaluated for the period 1500-2012. The data indicate a long-term decline of winter precipitation, consistent with the general drying trend present in the observational record available from 1920-2012. Such multi-century hydrological information has proved invaluable to water managers in the western continental United States, and perhaps may be of similar value in Hawaii.

during NOAA's Hazardous Weather Testbed Spring Experiment, the GOES-14 satellite provided imagery at one-minute intervals, called Super Rapid Scan Operations. The experiment lasted four weeks and ended on May 13, 2016.



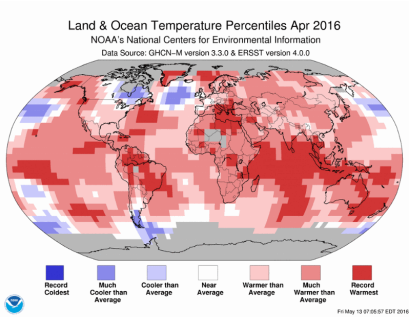
GOES full disk image, May 25, 2016

Super Rapid Scan Operations simulates the capabilities that will be available with the GOES-R Series Advanced Baseline Imager. During the experiment, NOAA's National Weather Service evaluated GOES-R products to issue experimental forecast updates and severe thunderstorm and tornado warnings.The GOES-14 captured many severe storms and tornadoes as well as the Fort McMurray wildfire in Alberta, Canada. Visit here to view the difference between imagery from GOES-14 in Super Rapid Scan mode, Rapid Scan mode, and Standard mode, courtesy of our partners at the Cooperative Institute for Meteorological Satellite Studies.

The NOAA Hazardous Weather Testbed is a joint project of the National Weather Service and the Office of Oceanic and Atmospheric Research and provides an opportunity for researchers and forecasters to work side-by-side to evaluate emerging technologies and science. This collaborative approach ensures an effective, two-way path between research and operations which ultimately improves National Weather Service forecasts and warnings.

April marks 12th consecutive month of record warmth for globe

The globally averaged temperature over land and ocean surfaces for April 2016 was the highest for the month of April in the NOAA global temperature dataset record, which dates back to 1880.



This marks the 12th consecutive month the monthly global temperature record has been broken, the longest such streak in the 137-year record. The January-April global temperature was also the highest on record.

This monthly summary, developed by scientists at NOAA's National Centers for Environmental Information, is part of the suite of climate services NOAA provides to government, business, academia and the public to support informed decision-making.

Message from Dr. Stephen Volz

Assistant Administrator for NESDIS

NESDIS in the NEWS

You can find the most recent editions of **NESDIS Newsletters** here.

Space News
NOAA's Commercial Weather Data Pilot takes flight by Dr. Stephen Volz

Scientific American
U.S. has more gas flares than any country

Bloomberg
A sharper eye in the sky means better U.S. storm forecasts ahead

Space Policy Online
NOAA gets space weather boost from Senate appropriators

Washington Post - Capital Weather Gang
We are living in the planet's most unusually warm period in modern history

As you know, NESDIS has begun execution of the Commercial Weather Data Pilot per the plan outlined in our FY 2016 Appropriations report to Congress. We have just released a Request for Information (RFI) that serves as the vehicle to begin bringing the first commercial radio occultation data into NOAA as part of the Pilot activity. The RFI requests pre-launch data that will aide NOAA in initial data quality evaluation and preparation for evaluation of on-orbit data, while also facilitating broad participation in the Pilot. The RFI also gathers the most up-to-date industry input as we consider what criteria will be included in the future Request for Proposals (RFP) for on-orbit radio occultation data to support this Pilot activity. NESDIS will soon release a draft RFP for public comment, to be followed by the final RFP this summer.

NESDIS is also working to adjudicate comments received to the NESDIS Commercial Space Activities Assessment Process. The comment period for the Process closed on May 9, and NESDIS received four comments to the document. We will keep you updated as we complete the final version.

I thank Congress for your continued support of our important work. Please contact Sierra Jones at 202.482.6140 or sierra.jones@noaa.gov if you have any questions regarding NOAA's NESDIS, or would like to set up a meeting.

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